



**Relevance of single nucleotide polymorphism in p53, IL-11, IL-10 and VEGF in patients with repeated implantation failure and pregnancy loss.**

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This research has used a number of genetic variants in order to be able to determine whether they are more prevalent in patients with RIF or RPL to find out if those could be considered as risk factors. To do this, we have studied these variants in a population of patients who had undergone two miscarriages (RPL) and in patients who have had transferred more than 4 good quality embryos in at least two transfers (RIF) compared with a population control. As a result, we have obtained that there is a higher incidence of carrying a p53 variant in patients with RIF and RPL so that this variant may explain their pathology. In the case of IL-11 observed that one of its variants shows a tendency to be associated with these reproductive problems. In the end, neither the variants in IL-11 or VEGFA have shown to be more prevalent in our studied patients.

Implantation failure and repeated miscarriages are the main causes of recurrent IVF failures. Although more than 50% are due to genetic, anatomic, endocrine or autoimmune causes, a high percentage are of unknown origin. Certain environmental or lifestyle factors could explain the ethology in these cases. In addition, certain genetic variants (polymorphisms) may predispose to increased risk of these diseases. Our results are of great relevance, since along with other markers could allow developing diagnostic tests to detect the risk of RIF and RPL before treatment begins.

At Instituto Bernabeu Implantation Failure and Repeat Abortion Unit, a multidisciplinary approach to these patients is performed to diagnose and treat reproductive problems individually. This unit features professionals from different disciplines and their research work has been included in this work.

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